

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A workpiece connector for a handtool, the workpiece connector comprising:

(a) a shaft having a longitudinally extending channel, the channel sized to selectively receive a stem portion of a workpiece;

(b) a collar slidably received on the shaft;

(c) means for selectively locking a workpiece within the channel of the shaft, the means for selectively locking being disposed between the collar and the shaft; and

(d) means for centering the workpiece within the shaft, the means for centering the workpiece being disposed between the collar and the shaft.

2. The workpiece connector of Claim 1, wherein the means for selectively locking a workpiece within the channel of the shaft is automatically reciprocated between a locked position by inserting the workpiece within the channel and an unlocked position.

3. The workpiece connector of Claim 1, wherein the means for centering the workpiece within the shaft simultaneously centers the workpiece within the channel as the means for selectively locking a workpiece within the channel of the shaft is displaced into locking engagement with the workpiece.

4. The workpiece connector of Claim 3, wherein the means for selectively locking a workpiece within the channel of the shaft comprises at least a first ball received within a cavity formed in the shaft, the at least first ball being positioned for selective locking engagement with the groove of the workpiece when the workpiece is received within the channel.

5. The workpiece connector of Claim 3, wherein the means for centering the workpiece within the shaft comprises a plurality of balls, each one of the plurality of balls being reciprocally disposed within a correspondingly number of cavities formed with the shaft, the plurality of balls being in communication with the stem portion of the

workpiece when the workpiece is received within the channel to center the workpiece within the channel.

6. The workpiece connector of Claim 5, further comprising a biased pin assembly disposed within the channel of the shaft, the biased pin assembly being biased to selectively eject the workpiece from within the channel when the means for selectively locking a workpiece within the channel of the shaft is displaced into an unlocked position.

7. A workpiece connector for a handtool, the workpiece connector comprising:

(a) a shaft having a longitudinally extending channel, the channel sized to selectively receive a stem portion of a workpiece;

(b) a first collar slidably received on the shaft; and

(c) a centering and locking assembly disposed between the first collar and shaft, the centering and locking assembly capable of simultaneously engaging and centering a workpiece within the longitudinally extending channel of the shaft when the workpiece is received within the longitudinally extending channel.

8. The workpiece connector of Claim 7, wherein the centering and locking assembly is automatically reciprocated between a locked position by inserting the workpiece within the channel and an unlocked position.

9. The workpiece connector of Claim 8, wherein the centering and locking assembly comprises at least two balls disposed within the shaft, wherein one of the at least two balls centers the workpiece within the channel and the other of the at least two balls lockingly engages the stem of the workpiece when the workpiece is received within the channel.

10. The workpiece connector of Claim 9, further comprising a biased pin assembly disposed within the channel of the shaft, the biased pin assembly being biased to selectively eject the workpiece from within the channel when the centering and locking assembly is displaced into an unlocked position.

11. A workpiece connector for a handtool, the workpiece connector comprising:

- (a) a shaft having a longitudinally extending channel, the channel sized to selectively receive a stem portion of a workpiece;
- (b) a first collar slidably received on the shaft;
- (c) a first detent assembly extending between the shaft and the first collar, the first detent assembly positioned to be selectively displaced into locking engagement with a groove formed on the workpiece; and
- (d) a second detent assembly extending between the first collar and the shaft, the second detent assembly simultaneously centering the workpiece within the shaft as the first detent assembly is selectively displaced into locking engagement with the workpiece.

12. The workpiece connector of Claim 11, wherein the first detent assembly is automatically reciprocated between a locked position by inserting the workpiece within the channel and an unlocked position.

13. The workpiece connector of Claim 12, further comprising a biased pin assembly disposed within the channel of the shaft, the biased pin assembly being biased to selectively eject the workpiece from within the channel when the first detent assembly is displaced into the unlocked position.

14. The workpiece connector of Claim 13, wherein the first detent assembly comprises a ball reciprocally received within a cavity formed in the shaft, the ball being positioned for selective locking engagement with the groove of the workpiece.

15. The workpiece connector of Claim 14, wherein the second detent assembly includes at least one ball reciprocally mounted within a cavity formed with the shaft and in communication with the channel to engage the stem portion of the workpiece when the workpiece is received within the channel.

16. The workpiece connector of Claim 14, wherein the second detent assembly includes a plurality of balls, each one of the plurality of balls being reciprocally disposed within a correspondingly number of cavities formed with the shaft, the plurality

of balls being in communication with the stem portion of the workpiece when the workpiece is received within the channel to center the workpiece within the channel.

17. The workpiece connector of Claim 16, wherein the plurality of balls are symmetrically orientated about an axis extending longitudinally through the shaft.

18. The workpiece connector of Claim 17, further comprising a biased pin assembly disposed within the channel of the shaft, the biased pin assembly being biased to selectively eject the workpiece from within the channel when the first detent assembly is displaced into an unlocked position.

19. A workpiece connector for a handtool, the workpiece connector comprising:

(a) a shaft having a longitudinally extending channel, the channel sized to selectively receive a stem portion of a workpiece;

(b) a collar slidably received on the shaft;

(c) a locking assembly extending between the shaft and the first collar, the locking assembly positioned to be selectively displaced into locking engagement with a groove formed on the workpiece, wherein the locking assembly is automatically reciprocated between a locked position by inserting the workpiece within the channel and an unlocked position; and

(d) means for centering extending between the first collar and the shaft, the means for centering simultaneously centering the workpiece within the shaft as the locking assembly is selectively displaced into the locked position, wherein the locking assembly is displaced locking engagement with the workpiece.